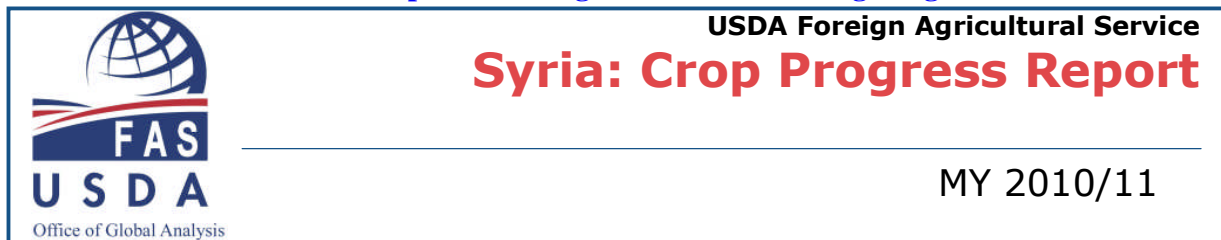


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February Summary

February 26, 2010

- (1) Above normal precipitation in the MY 2010/11 winter grain growing season has helped create the best early grain growing conditions in recent years, especially when compared to the drought-affected crops of the past two seasons. Wheat and barley crops are showing unusually strong development in all provinces of the country. Areas that were exhibiting below-normal development last month, including the rainfed growing regions of northeast Al-Hassakah, have shown surprising improvement in February. Warm temperatures have also hastened crop growth rates, with most areas showing crop development a full month ahead of average. Water supplies are recovering from the previous years of drought, with increases in river and spring flows reported. Nationwide, it is very evident that a major resurgence in grain production is underway, with satellite-derived vegetation analysis pointing to a potential near-record or record crop area. A continuation of favorable rainfall and adequate irrigation supplies remain crucial to realizing the potential of winter grain production throughout Syria this year, however at this point the overall outlook is extremely favorable.
- (2) The major winter grain producing areas throughout Syria have all received much higher rainfall to-date than the previous few growing seasons, and are currently running at normal to well-above normal precipitation levels (Figures 2-5). This abundant moisture has created ideal conditions for crop growth and development. Even minor producing crop regions in Deir ez Zor, Dar'a, and Suwayda have received above normal rainfall this season. Typically, the highest rainfall period for the country occurs from December-February. The most significant rainfall during the MY 2010/11 growing season occurred between November 2009 and end-January 2010, while February 2010 has been fairly dry. Abundant seasonal rainfall has resulted in increased reservoir levels behind major dams which support irrigated agriculture, ensuring later season crop requirements will be met. In addition, much of the water supply in rivers crossing Syria originates in Turkey, which has also experienced abundant rainfall during the winter period (Figure 27). This implies that more than adequate irrigation supplies should be available to support both wheat and barley crops in coming months.
- (3) Higher than normal temperatures were predominant in the first two months of 2010 across Syria. In late January, central Al-Hassakah experienced temperatures of more than 5 degrees Celsius above normal. This trend has continued into February, where well above normal temperatures have blanketed the country. Daytime maximum temperatures have now risen to 70-80 degrees Fahrenheit (20-25 degrees Celsius). These abnormally warm temperatures will likely speed crop development and increase crop moisture requirements in coming weeks.
- (4) A review of satellite-derived vegetative index data (NDVI) indicates that winter grain crops are showing vigorous development throughout the country compared to both the 6-year average and last year (Figures 7-15). This is especially true in the major irrigated regions in eastern Aleppo, northern Ar-Raqqa, northwestern and northeastern Al-Hassakah. Vegetation index (NDVI) time-

series data confirms that crop development is much better than the past few years and is ahead of schedule (Figures 16-20). February 2010 NDVI data closely resembles that of March 2006, indicating that crop density is either much higher than normal or crop stage is about one month advanced. If crop density is actually the primary contributor to enhanced NDVI values this year, then record crop yields are highly probable. The widespread extent of excellent grain crop conditions this year, and the likelihood that irrigation supplies will be sufficient for later season requirements, implies that record national winter grain production potential is likely.

- (5) MODIS satellite imagery composite maps from February 2009 and 2010 over Syria illustrate the superior development of winter grain crops this year (Figures 21-23). In addition, AWIFS medium resolution satellite imagery in northeastern Aleppo and northern Ar-Raqqah illustrates the early emergence of winter grains and their strong recent growth (Figures 24-25).
- (6) The NOAA Climate Prediction Center's 7-day precipitation forecast indicates moderate to heavy rainfall along Syria's northern and southern Mediterranean coastline, with only light rainfall across the major northern winter grain growing regions (Figure 26). Temperatures are forecast to continue to be slightly above normal for the bulk of the country.

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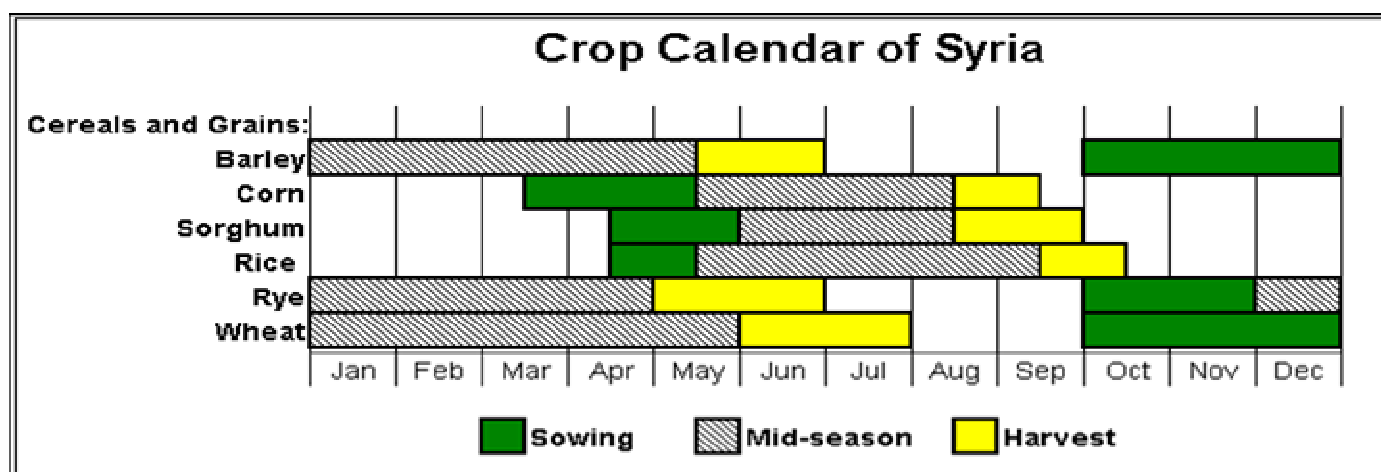


Figure 1. Crop Calendar of Syria. Data Source: USDA/FAS/PECAD, Crop Explorer

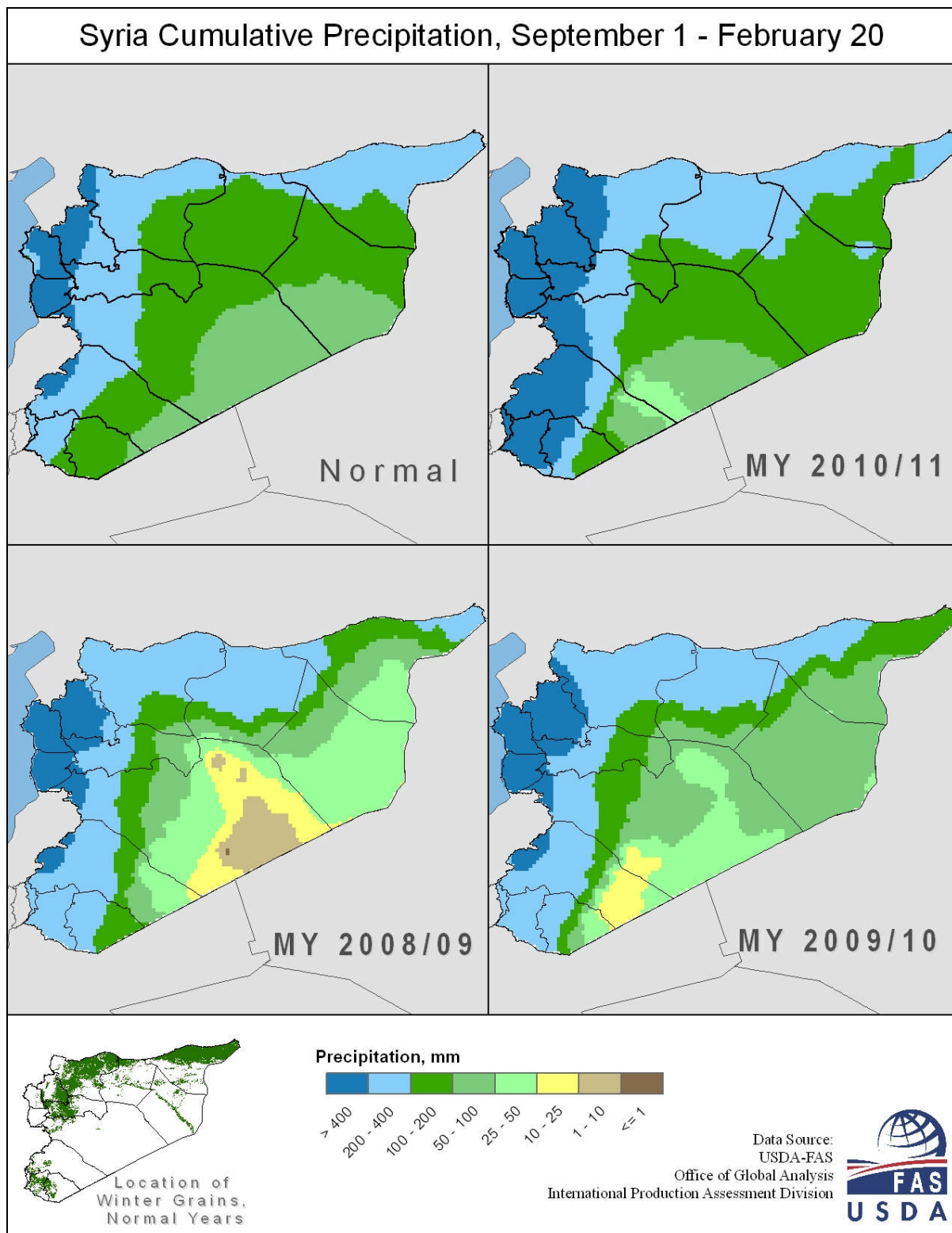


Figure 2. Precipitation in Syria. *Data Source: CADRE*

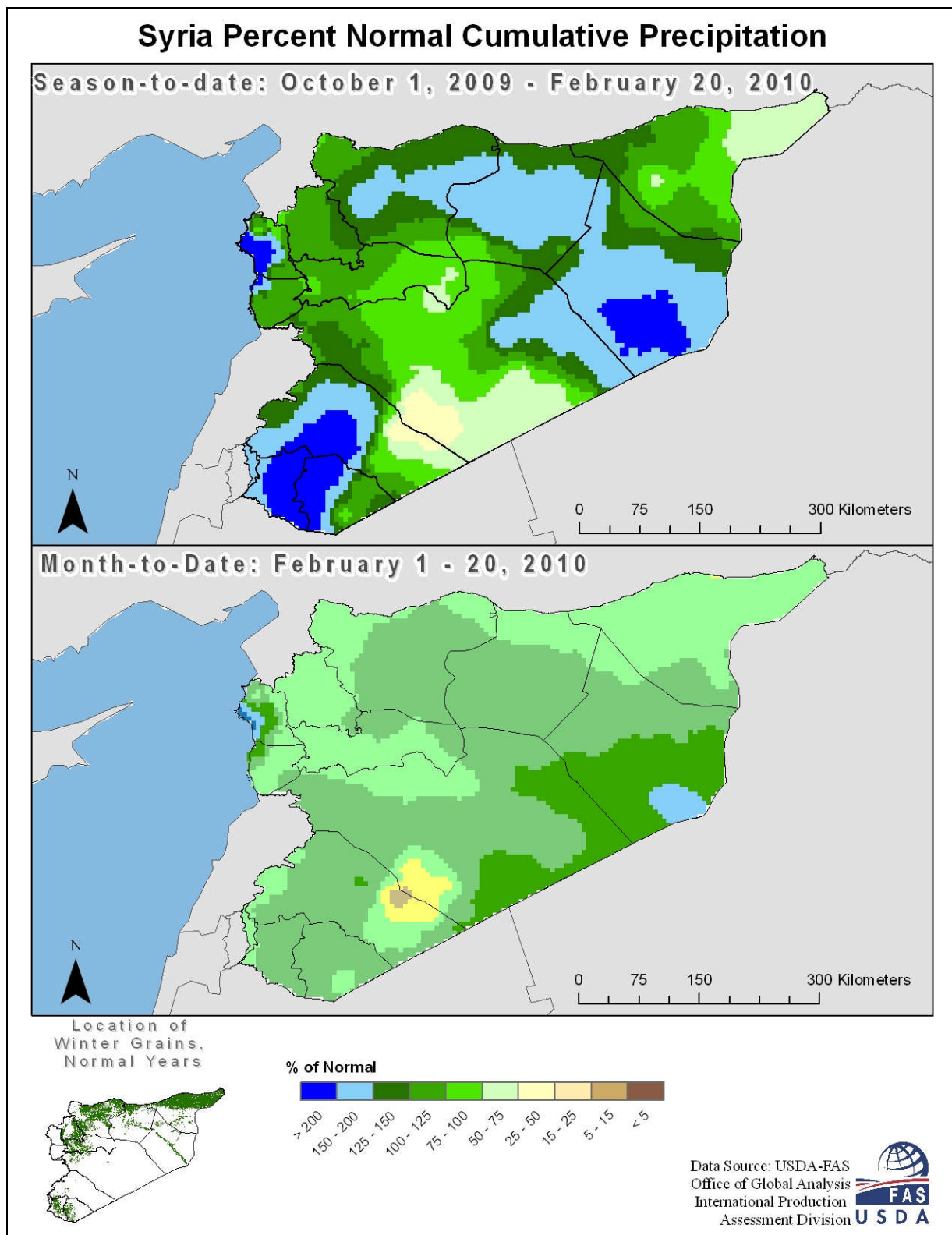


Figure 3. Percent Normal Cumulative Precipitation over Syria. *Source: CADRE AFWA.*

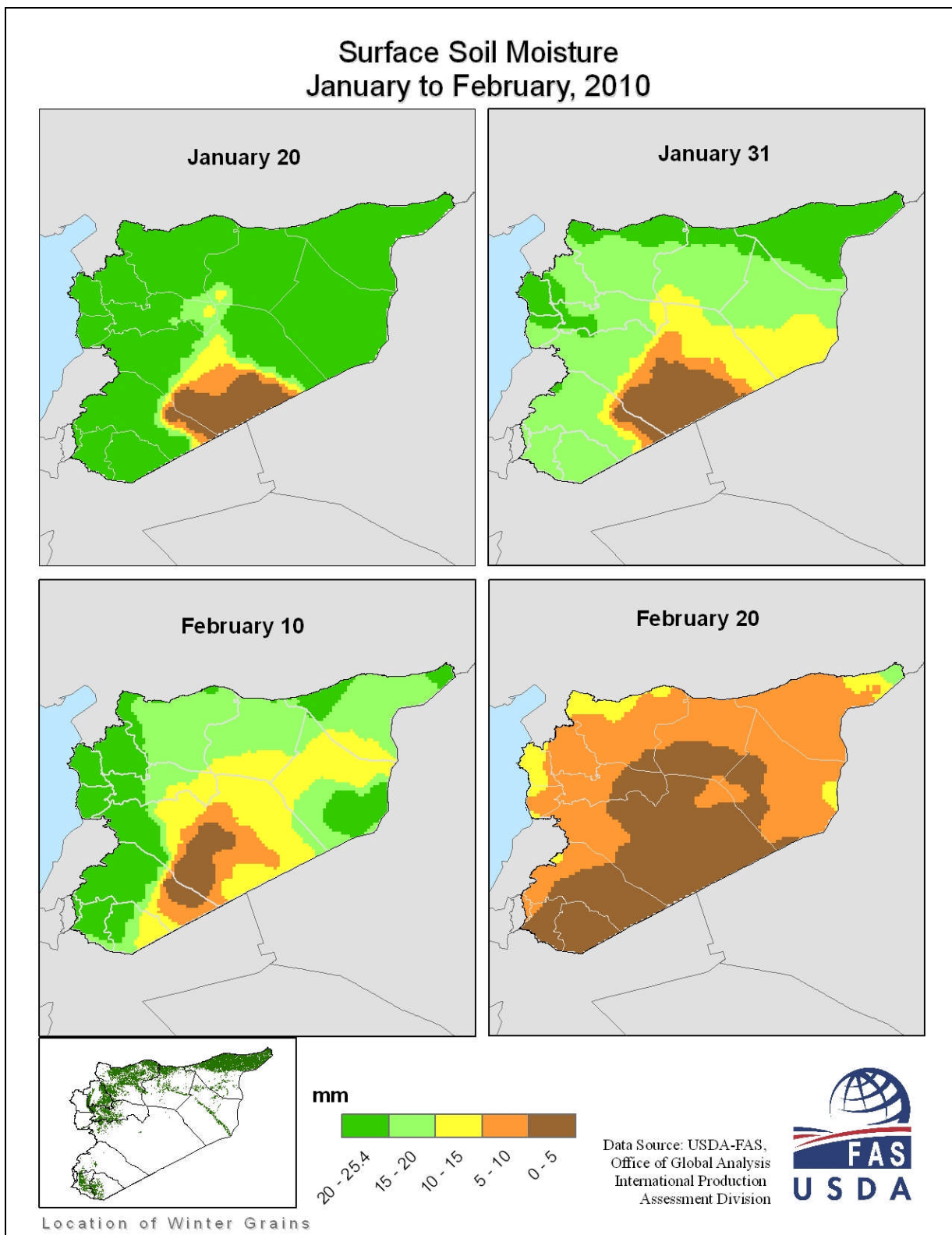


Figure 4. Surface Soil Moisture in Syria. *Data Source: CADRE*

Subsurface Soil Moisture Content January to February, 2010

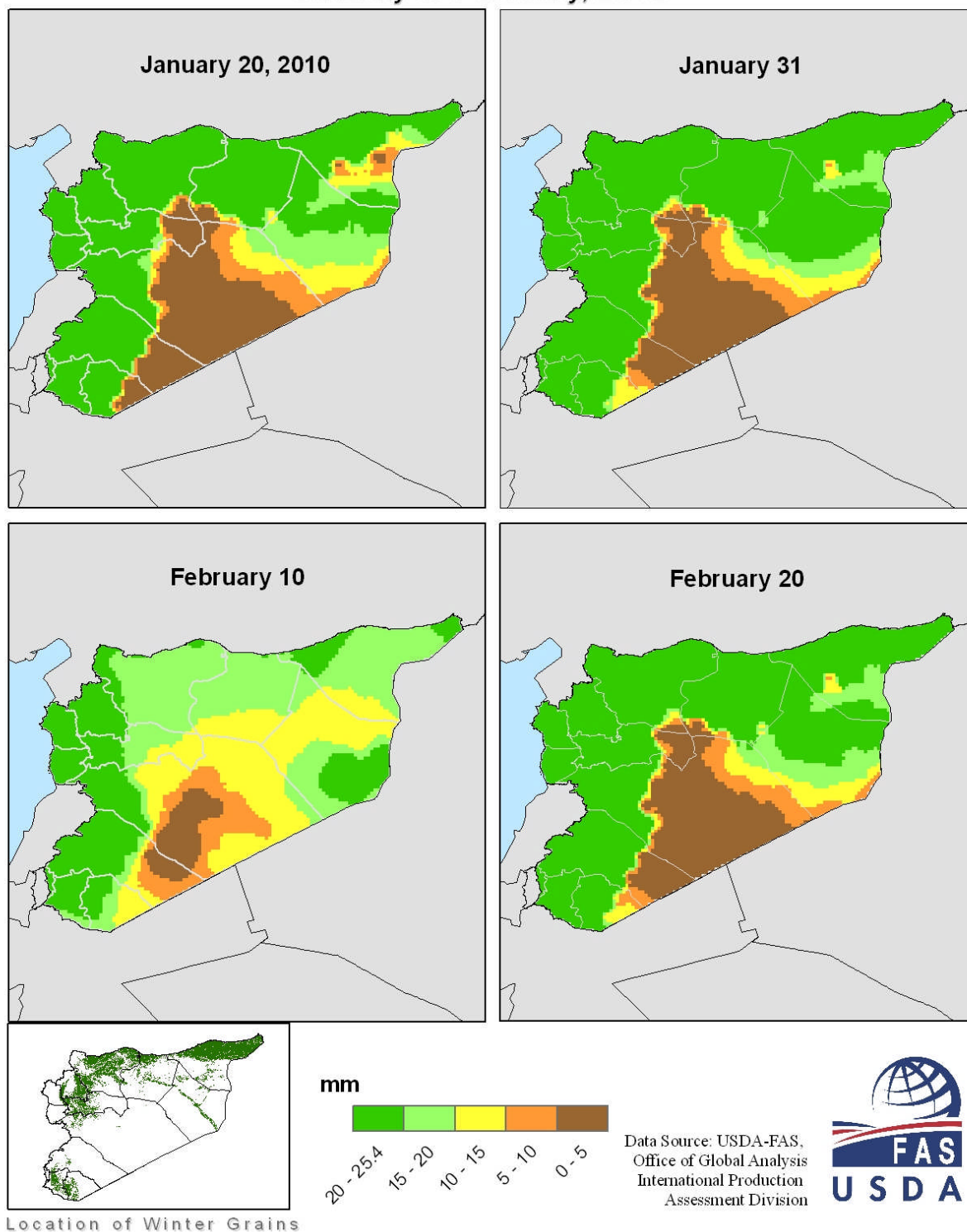
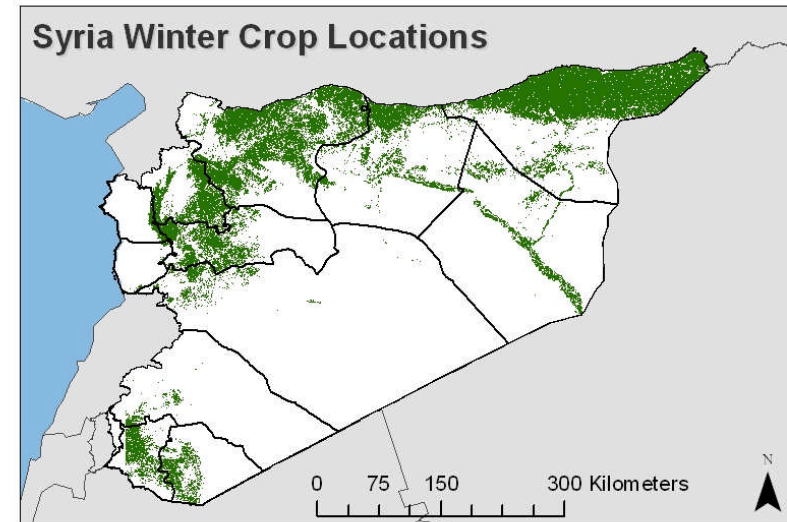
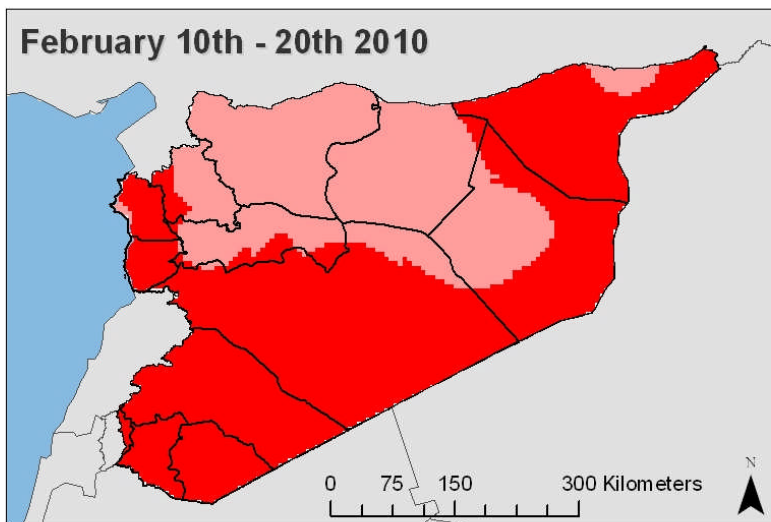
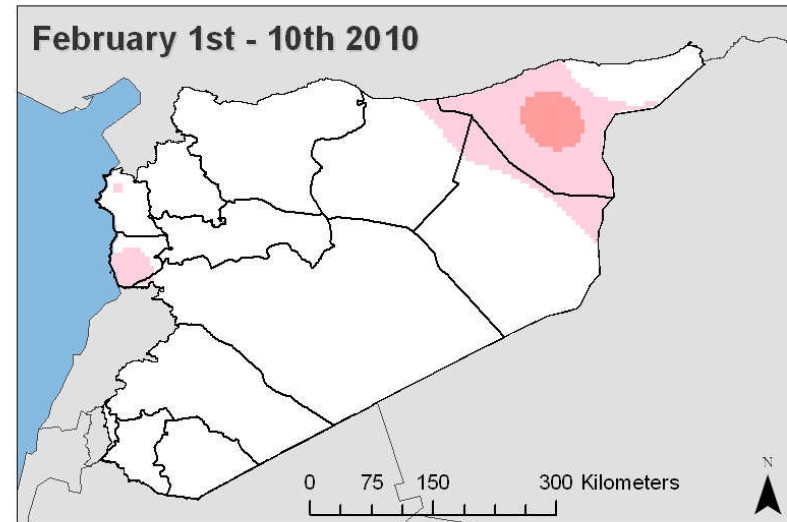
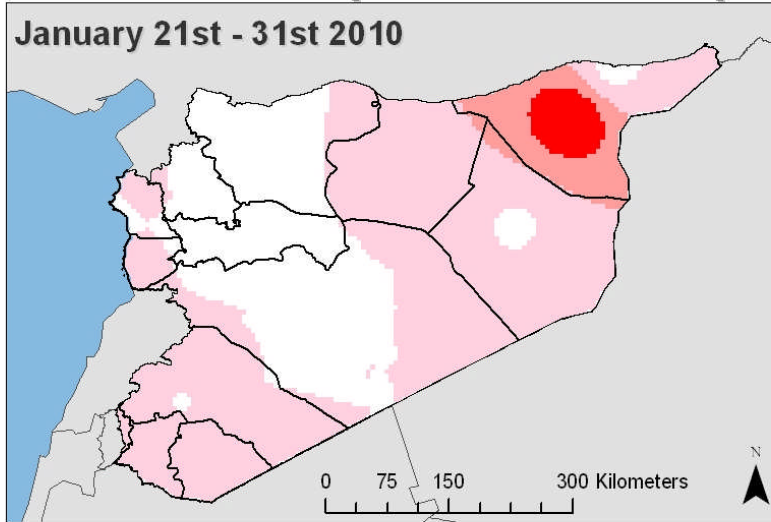


Figure 5. Subsurface Soil Moisture in Syria. *Data Source: CADRE*

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Temperature Departure From Normal



Data Source: CADRE
International Production Assessment Division
USDA/FAS/Office of Global Analysis
Produced on [February 20th 2010]

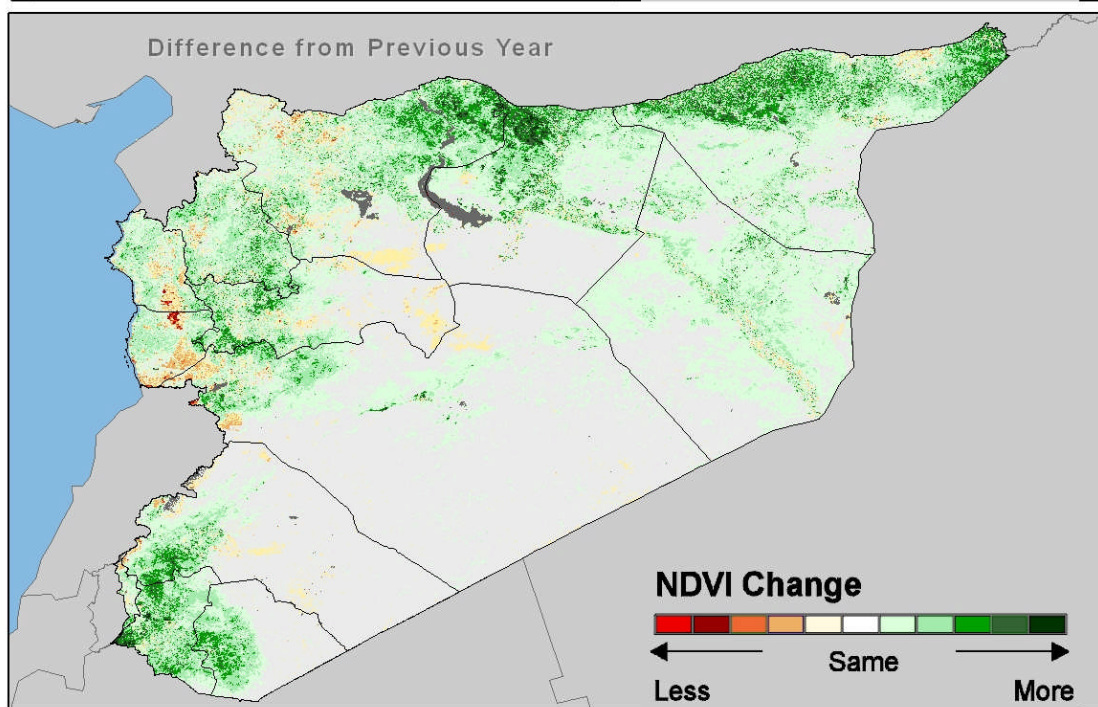
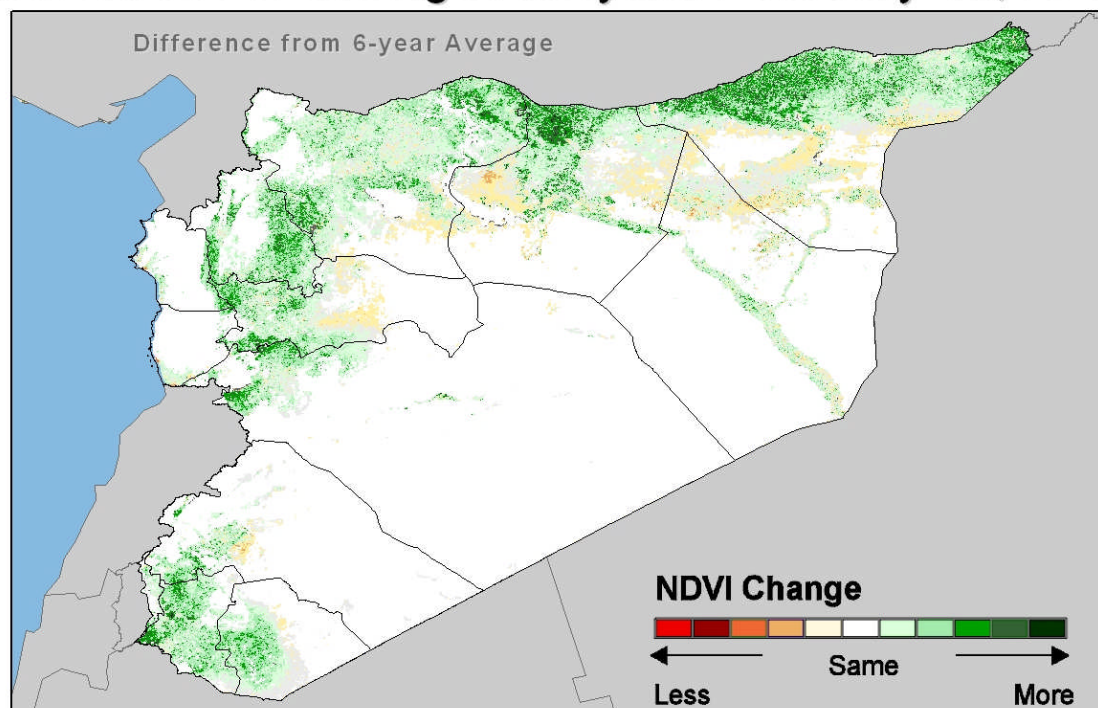
Temperature Departure (C)



Figure 6. Temperature Departure from Normal. *Data Source: CADRE.*

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MODIS NDVI Change Analysis: February 18, 2010



Data Source: MODIS NDVI 250-m, University of Maryland
USDA-FAS, Office of Global Analysis, IPAD
Crop Explorer



Figure 7. MODIS NDVI Change Analysis over Syria.

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MODIS NDVI Change Analysis By Province: February 18, 2010
Difference from Previous Year

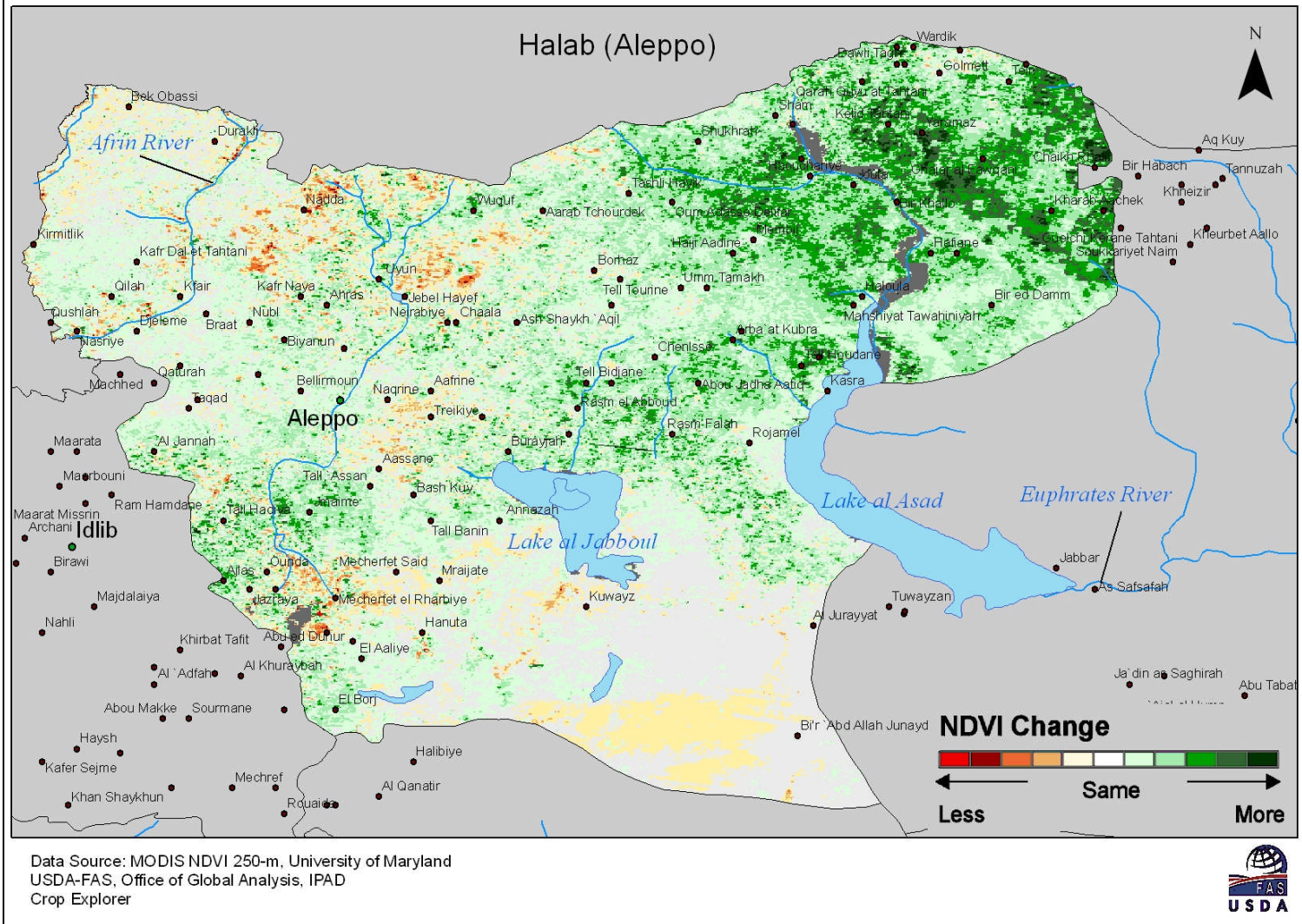


Figure 8. MODIS NDVI Change Analysis over Halab.

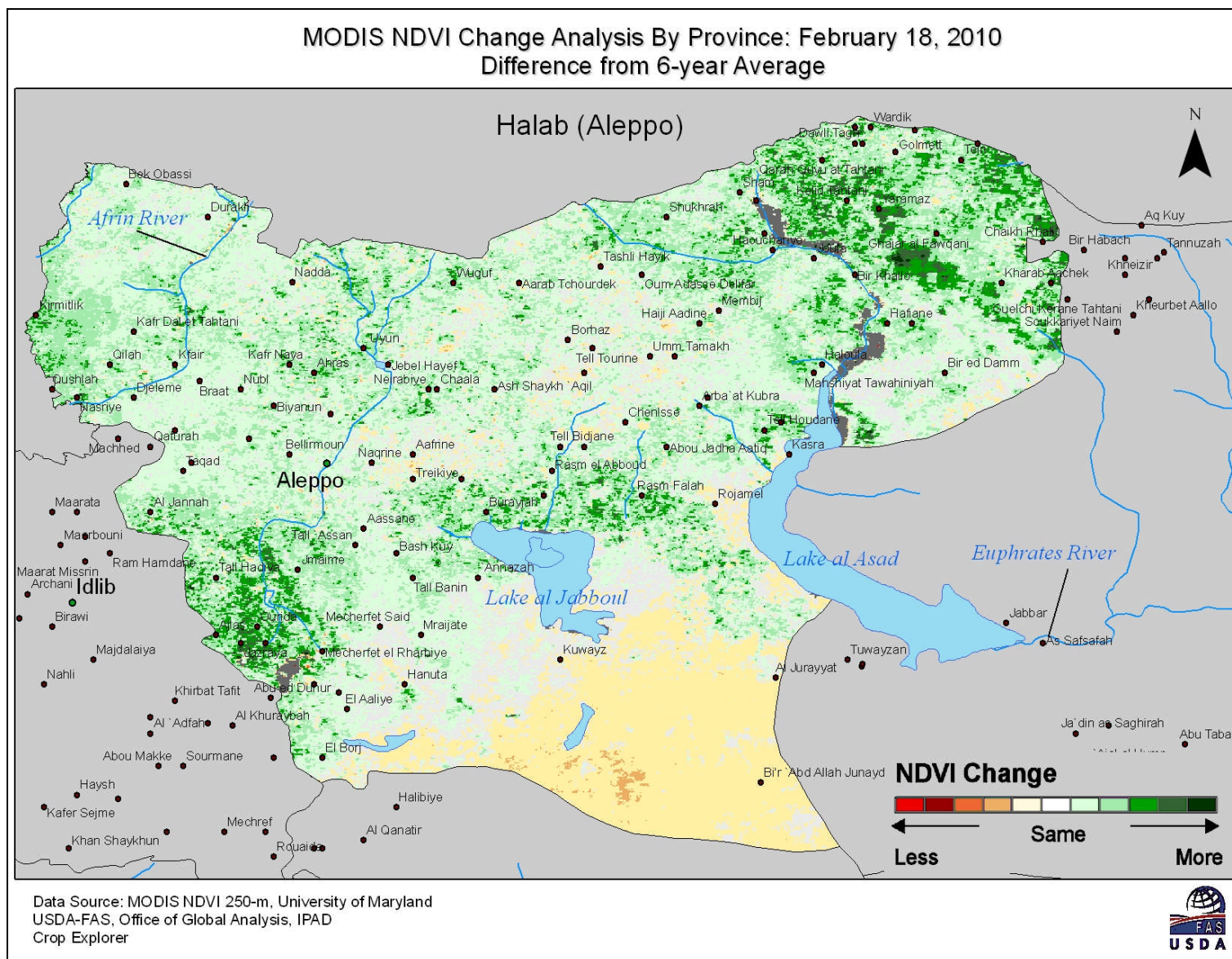


Figure 9. MODS NDVI Change Analysis over Halab.

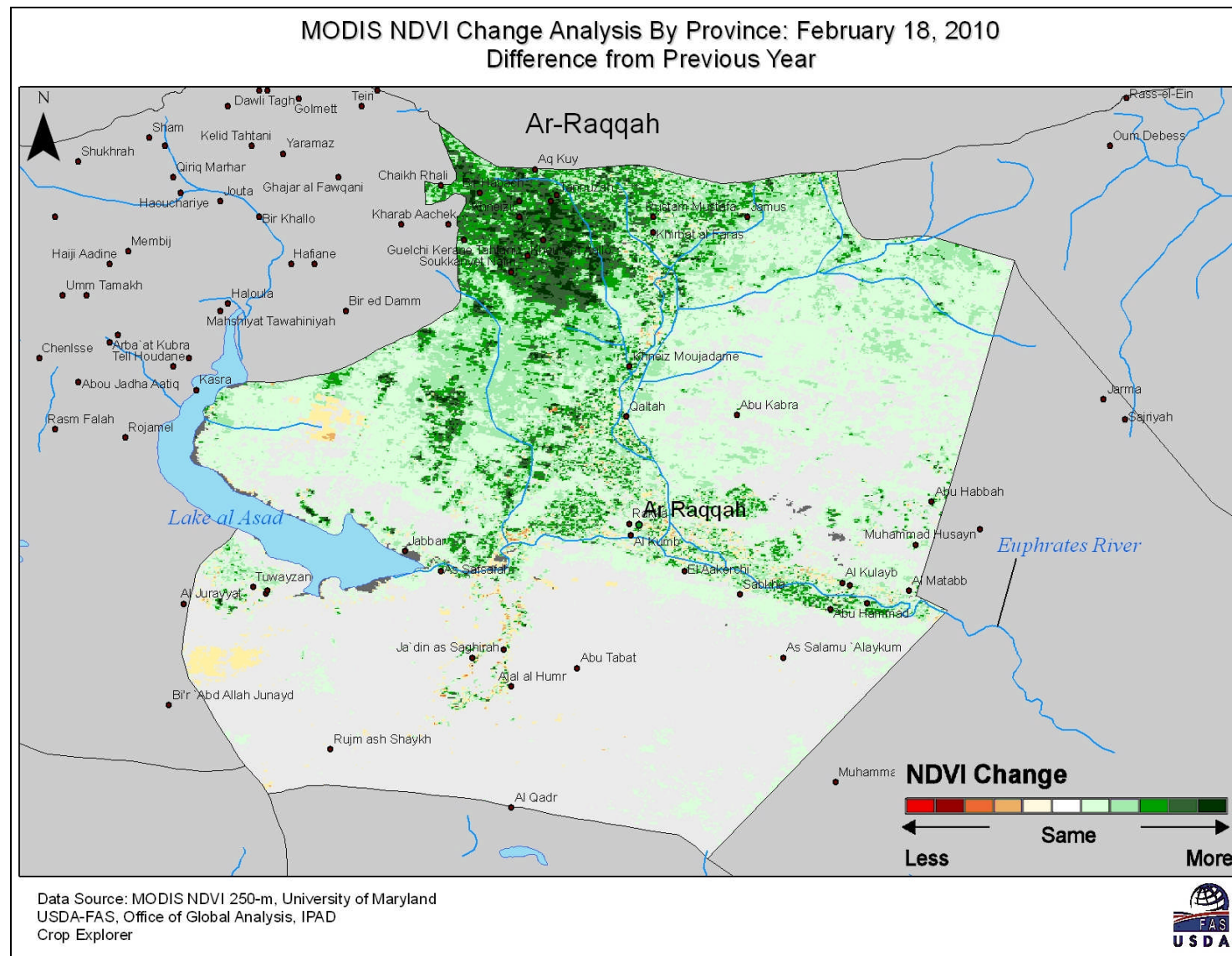


Figure 10. MODIS NDVI Change Analysis over Ar-Raqqa.

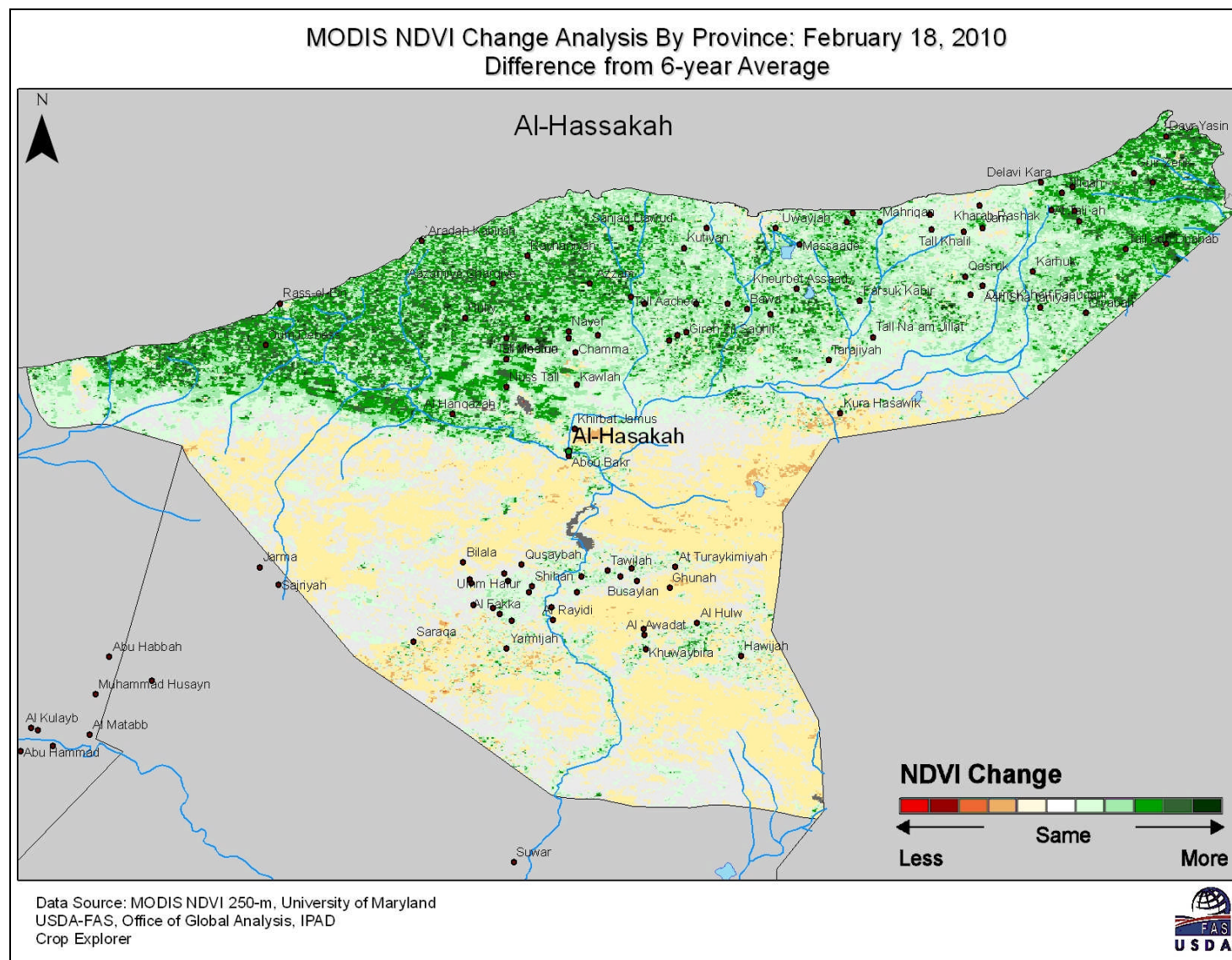


Figure 13. MODIS NDVI Change Analysis over Al-Hassakah.

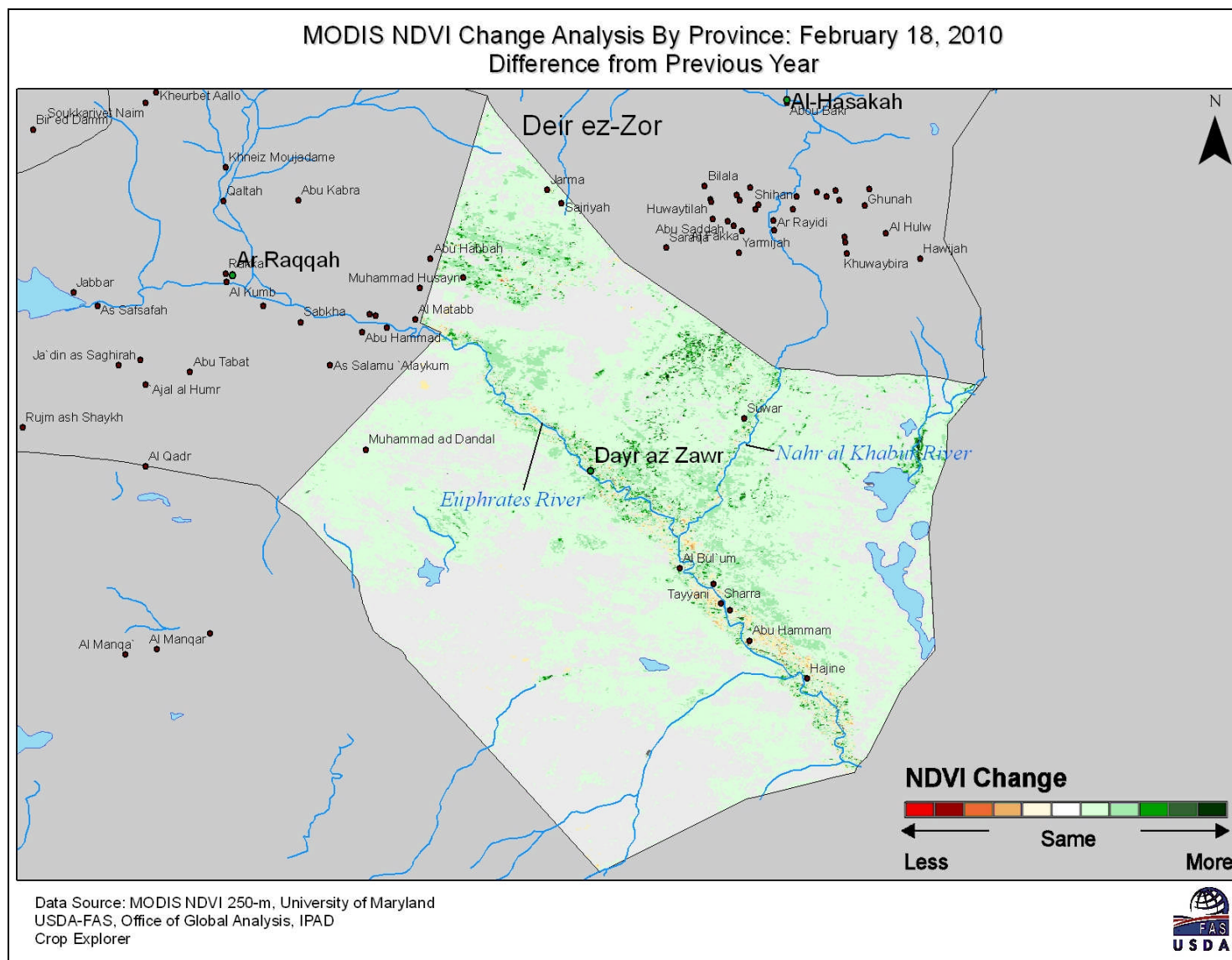


Figure 14. MODIS NDVI Change Analysis over Deir ez-Zor.

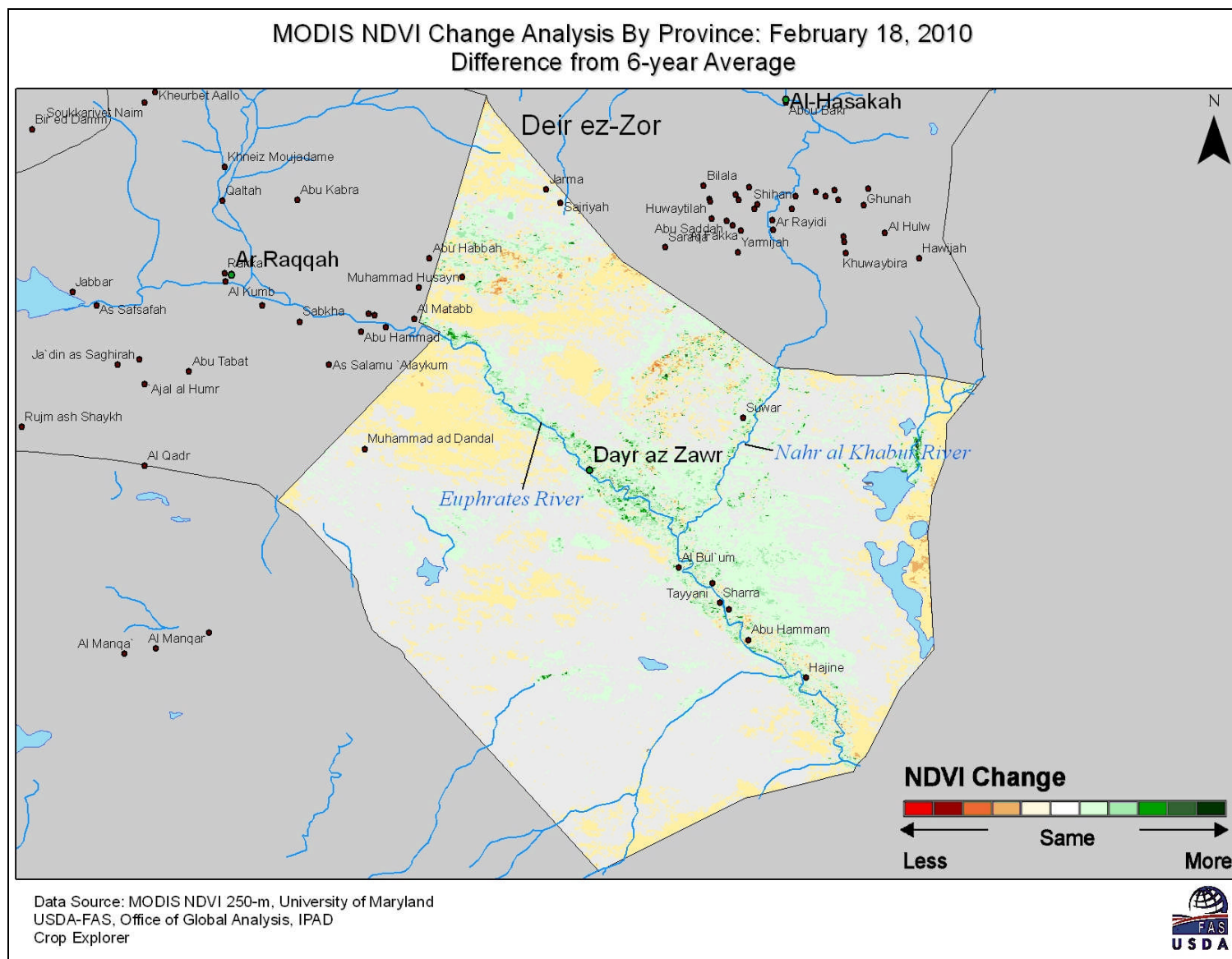


Figure 15. MODIS NDVI Change Analysis over Deir ez-Zor.

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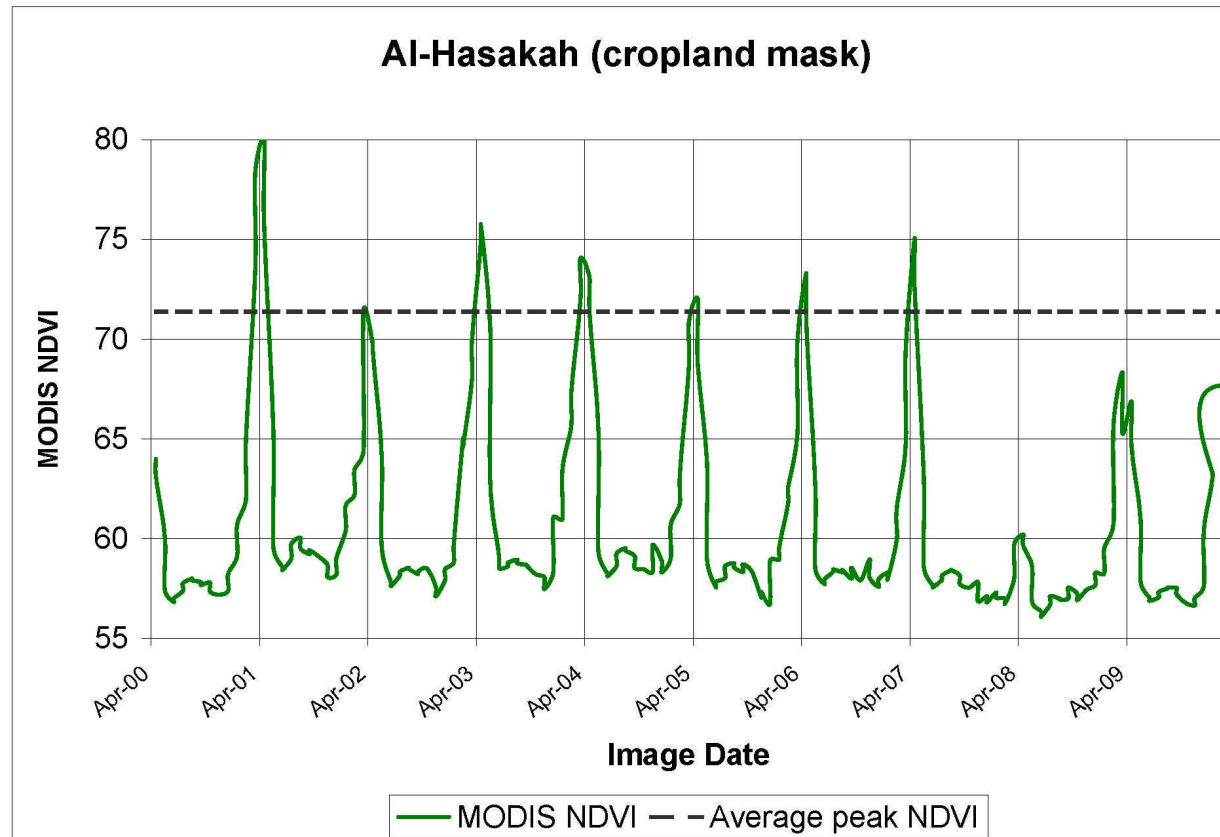


Figure 16. NDVI Graph of AI-Hassakah Province. *Data Source: USDA/FAS*

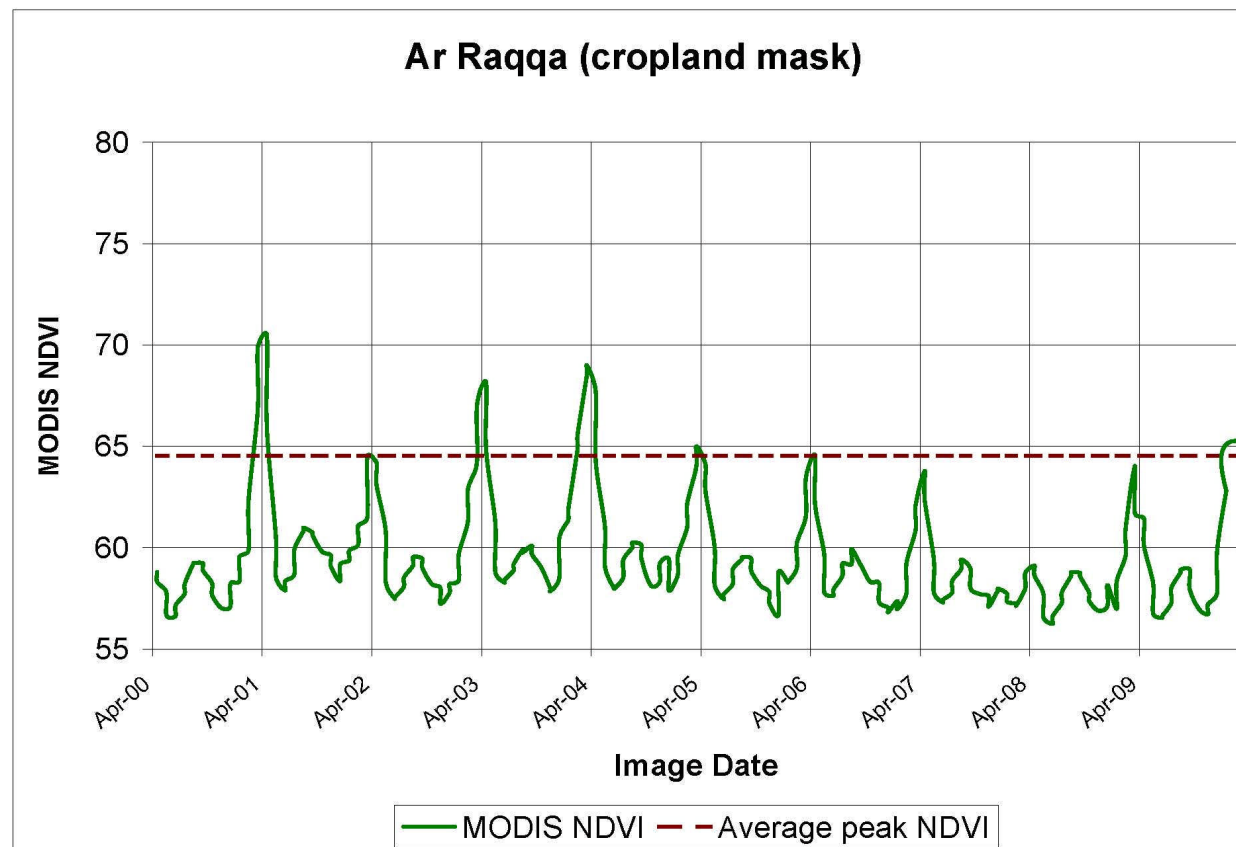


Figure 17. NDVI Graph of Ar Raqqah Provine. *Data Source: USDA/FAS*

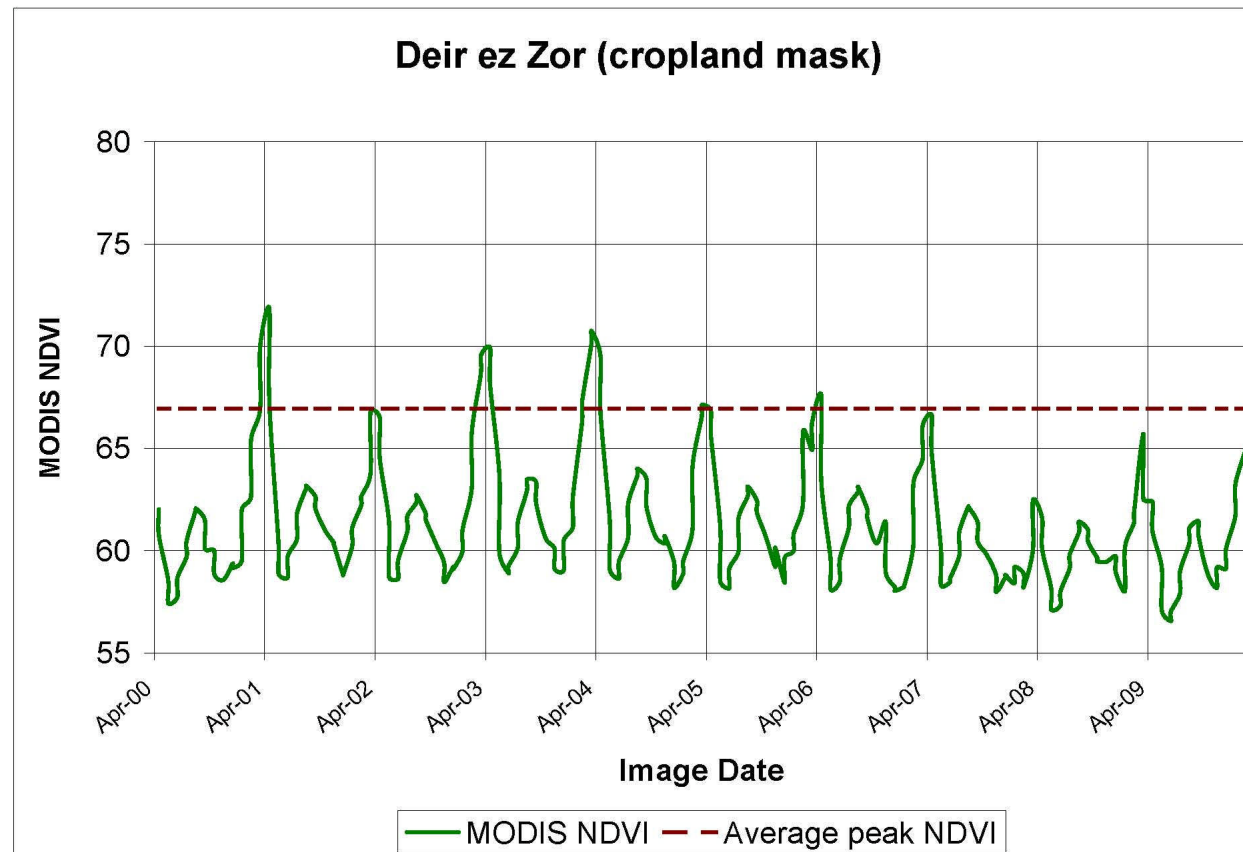


Figure 18. NDVI Graph of Deir ez-Zor Province. *Data Source: USDA/FAS*

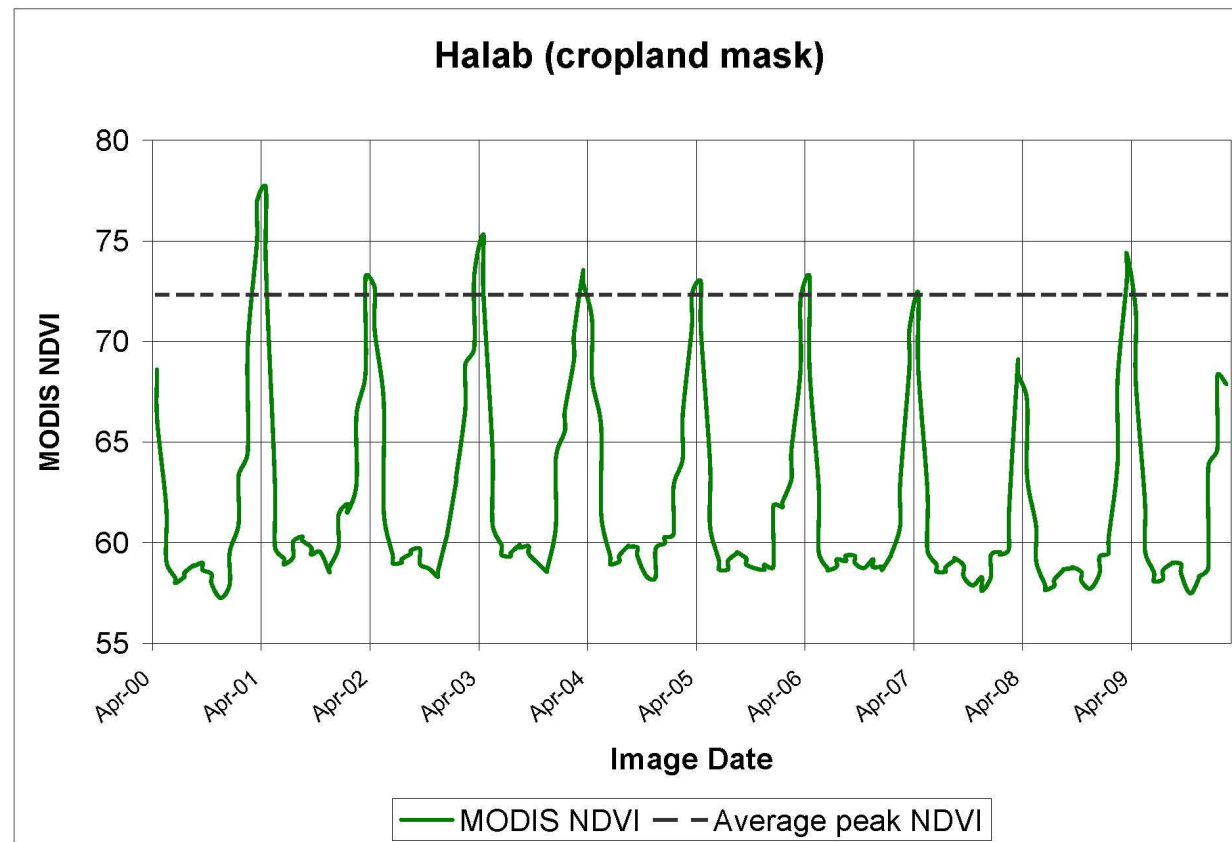


Figure 19. NDVI of Halab (Aleppo) Province. Data Source: USDA/FAS

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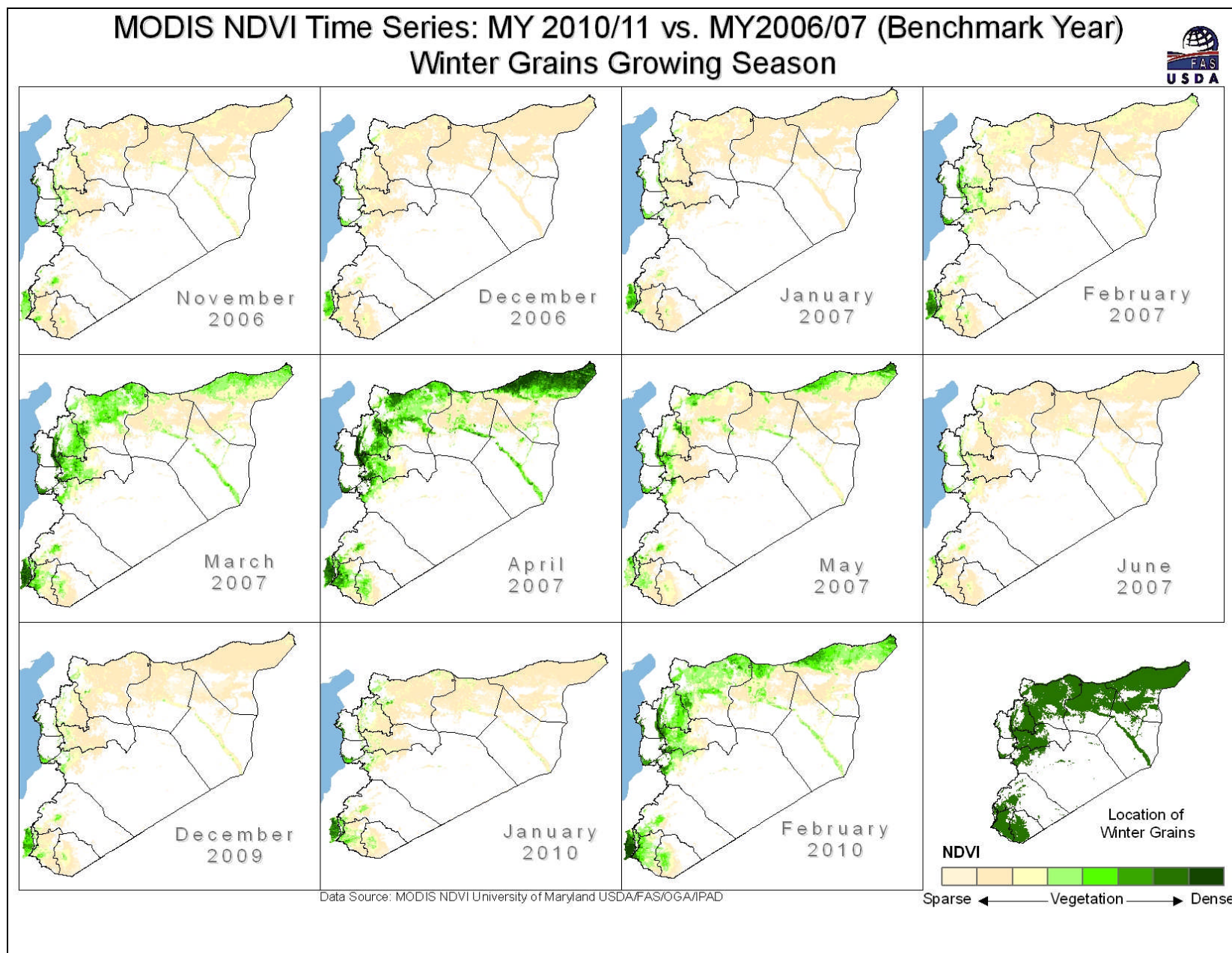


Figure 20. MODIS NDVI Time Series: MY 2010/11 vs. MY 2006/07 (Benchmark Year) Winter Grains Growing Season.

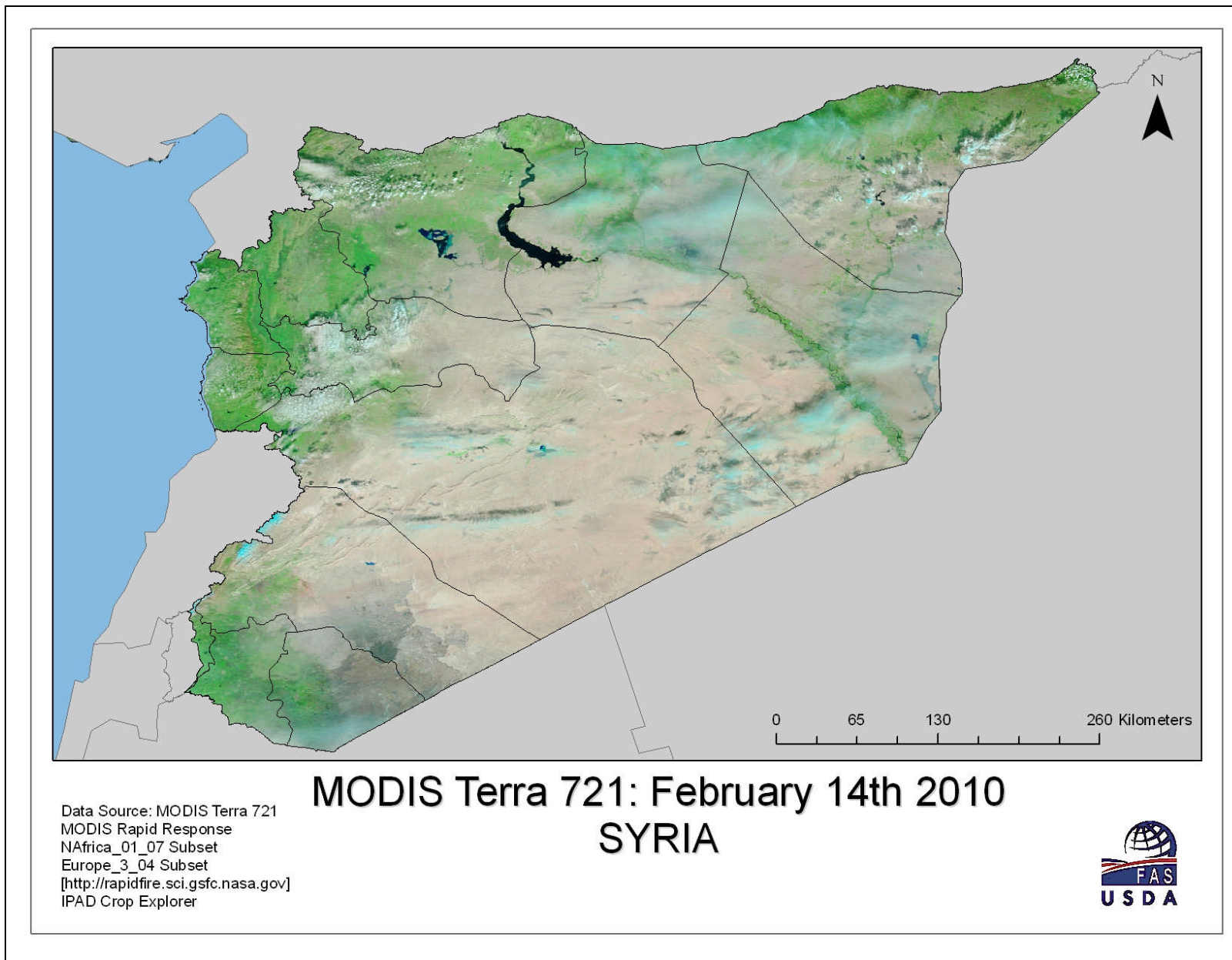


Figure 21. MODIS Terra 721 Imagery. *Data Source: MODIS Rapid Response*

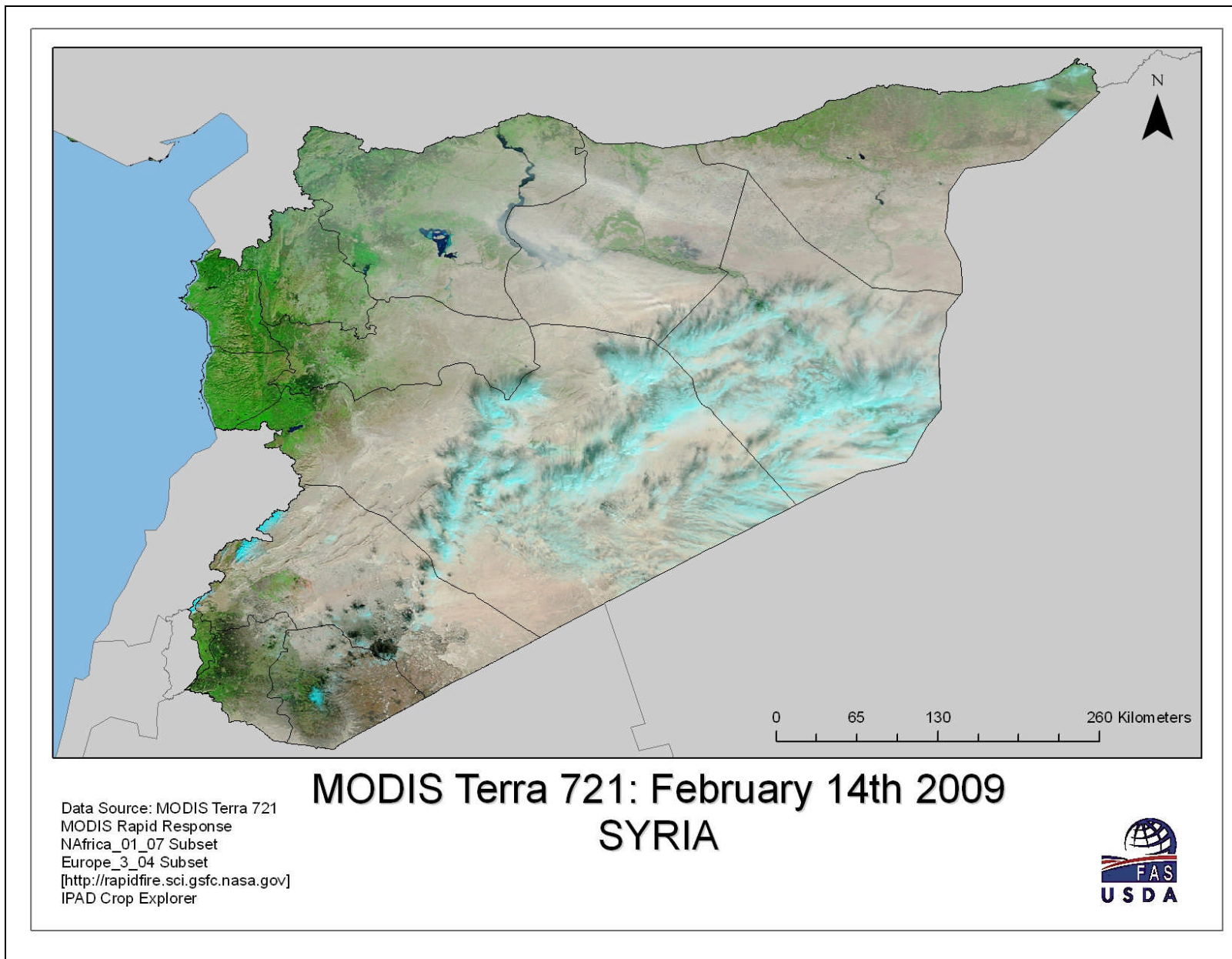


Figure 22. MODIS Terra 721 Imagery. *Data Source: MODIS Rapid Response*

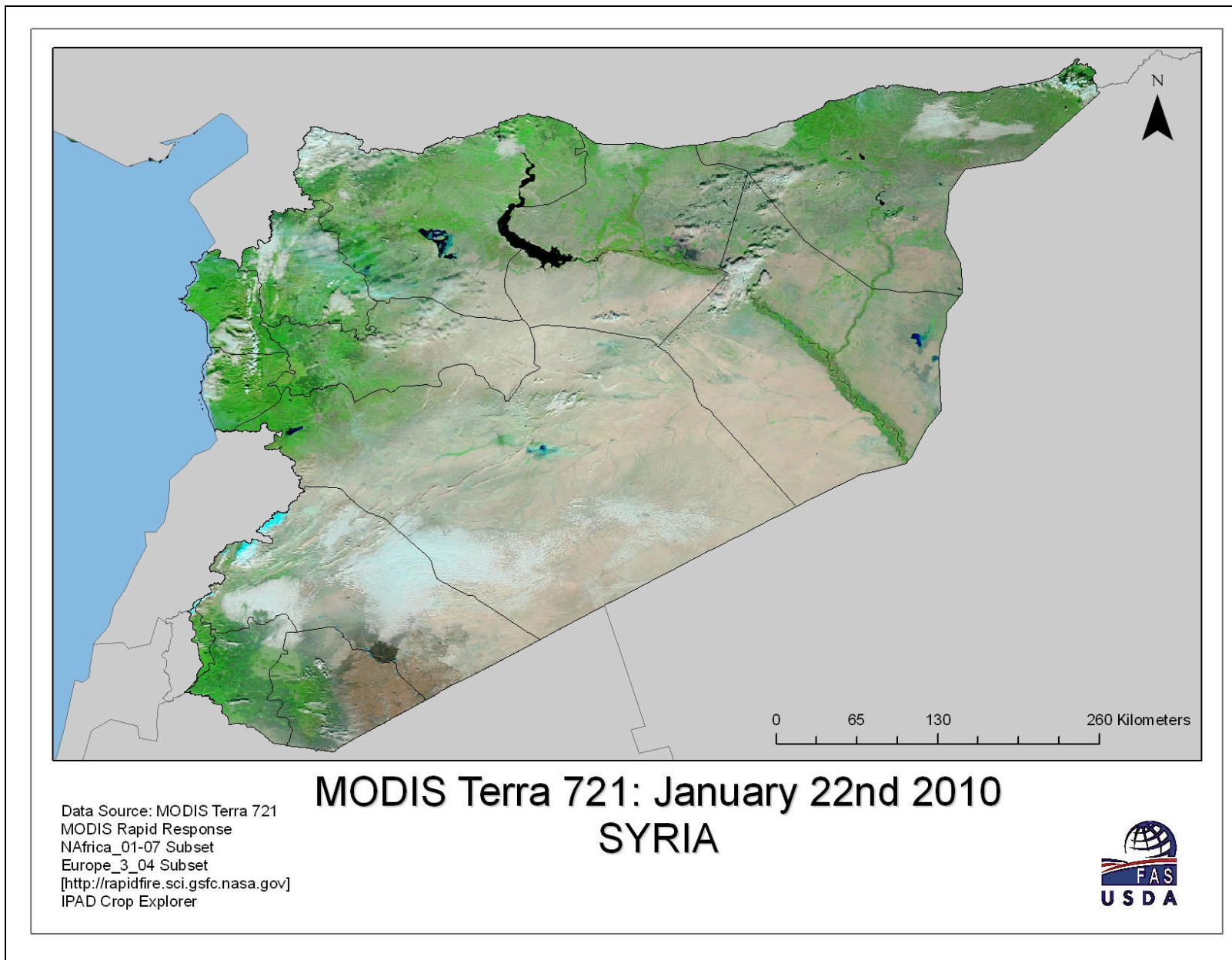


Figure 23. MODIS Terra 721 Imagery. *Data Source: MODIS Rapid Response*

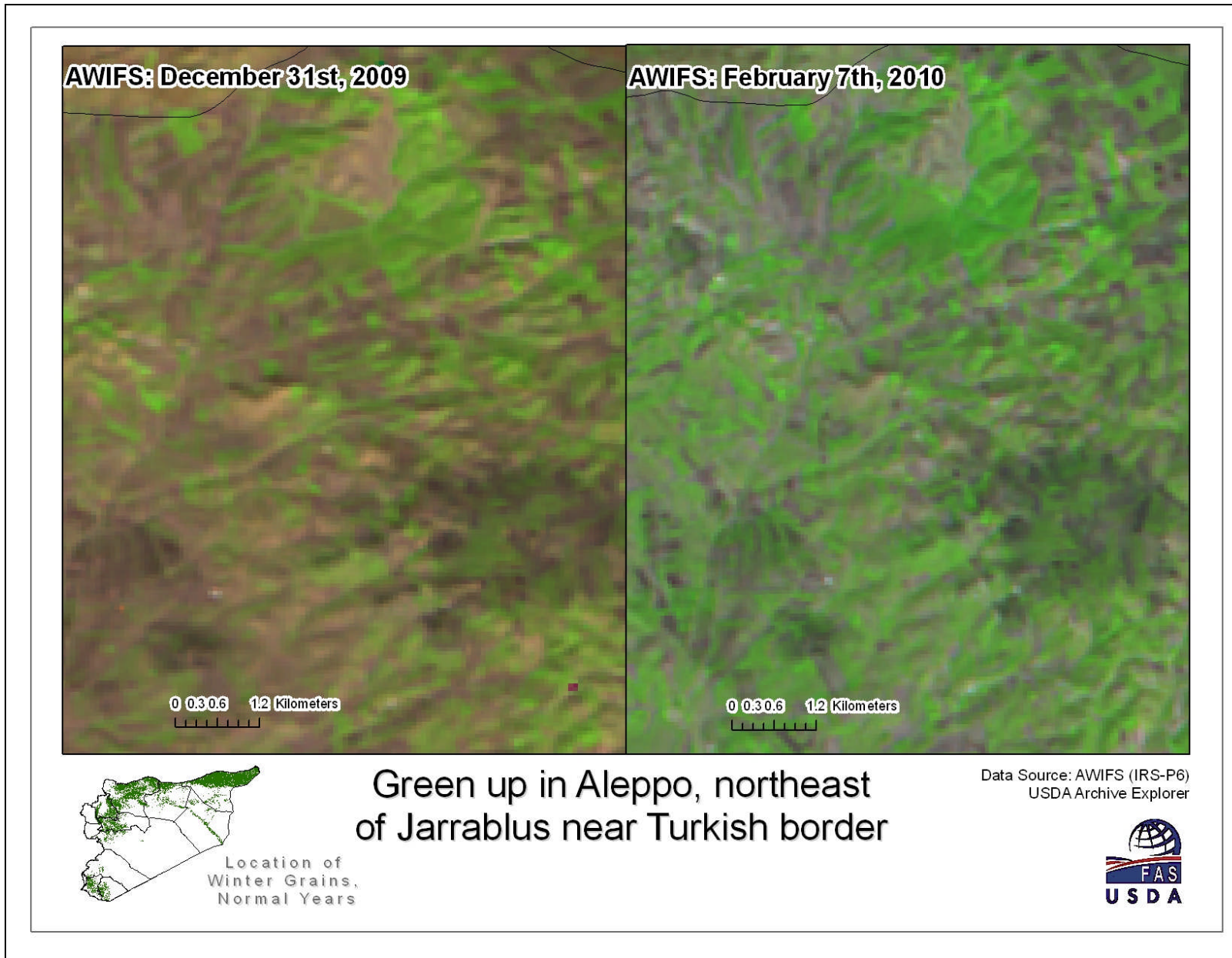


Figure 24. AWIFS (IRS-P6) Imagery over Syria. *Data Source: USDA/FAS*

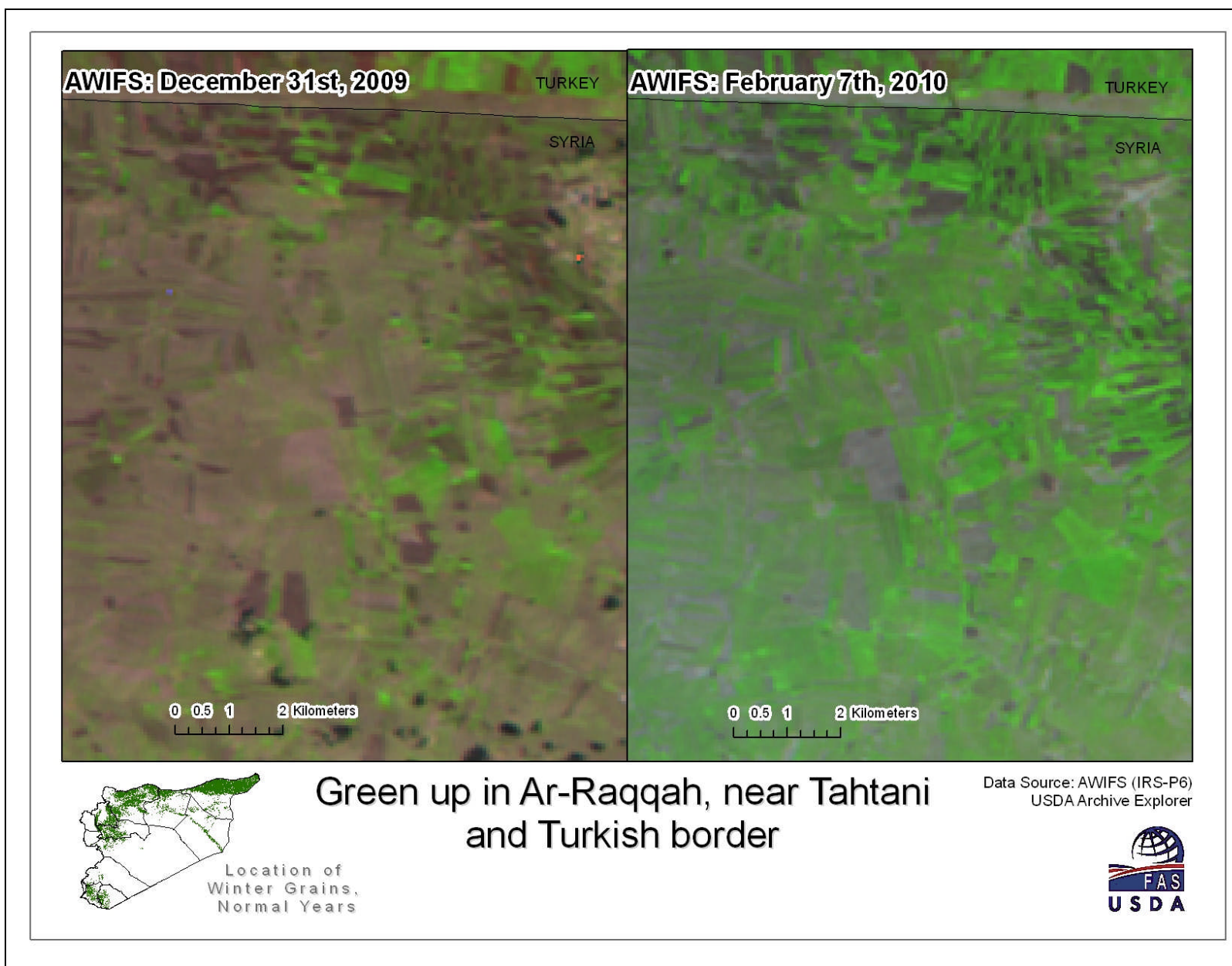


Figure 25. AWIFS (IRS-P6) Imagery over Syria. *Data Source: USDA/FAS.*

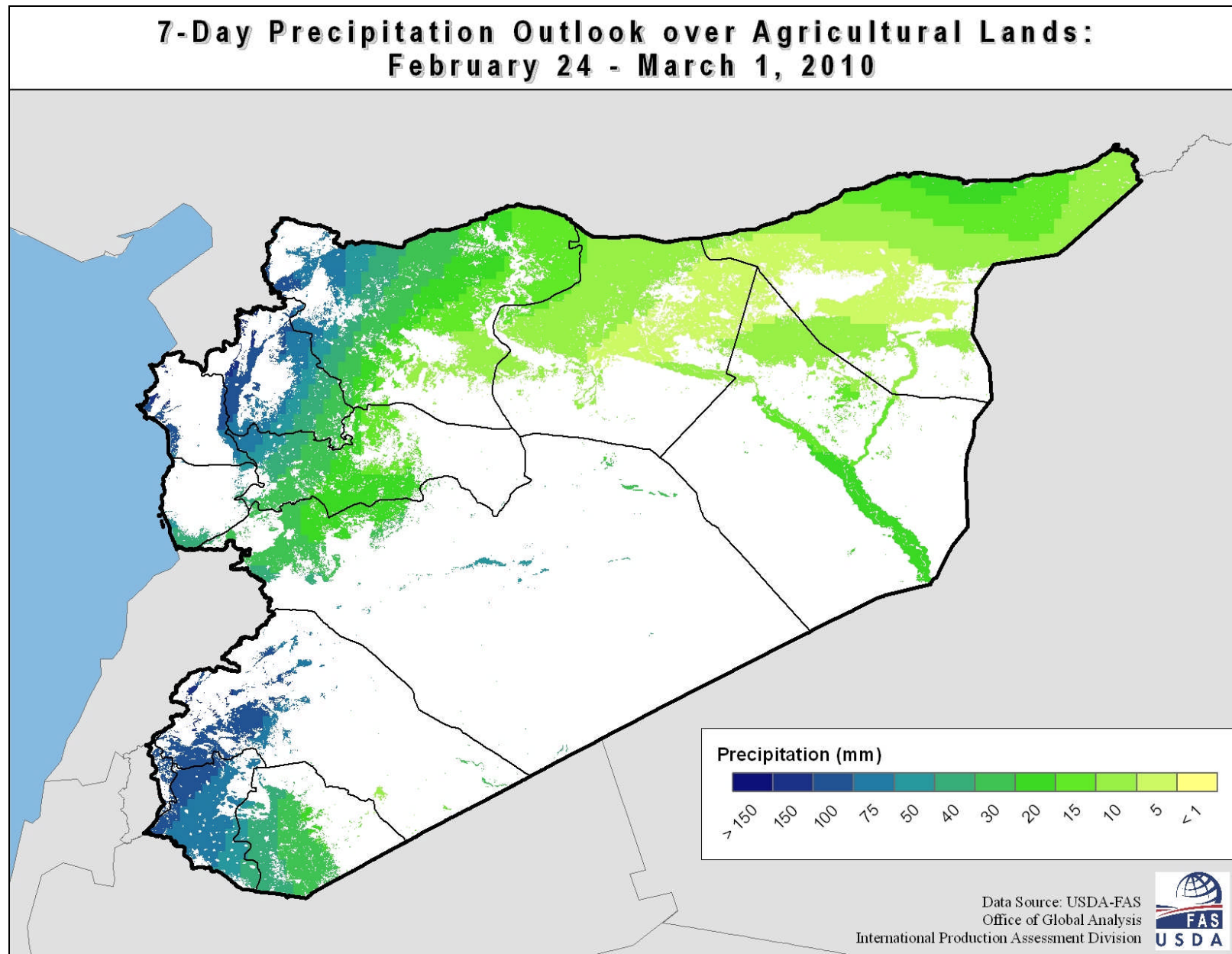
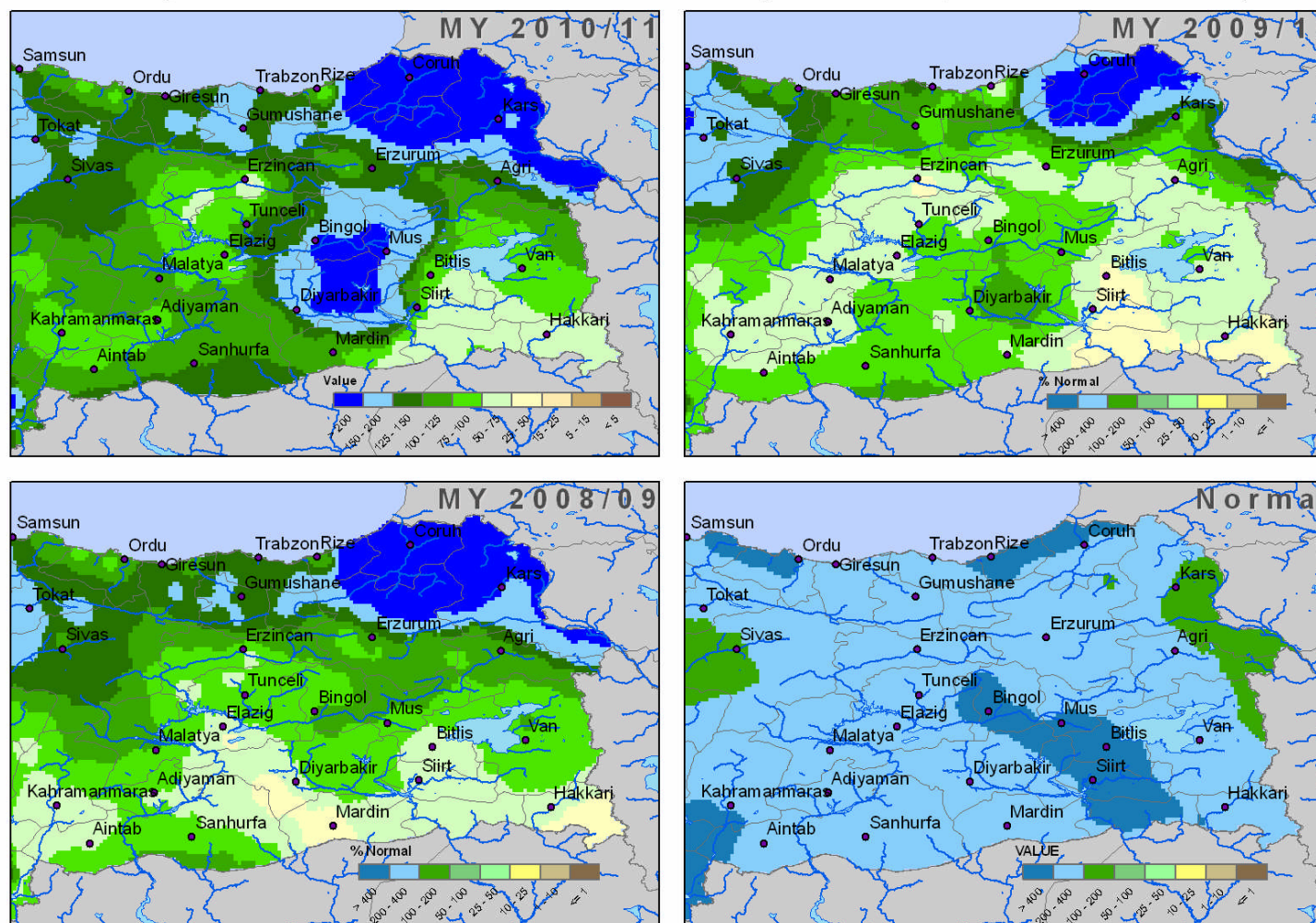


Figure 26. NOAA CPC 7-day Precipitation Forecast over Syria.

E. Turkey: Percent of Normal Cumulative Precipitation: September 1 - January 20



Data Source: AFWA Precipitation
USDA/FAS/OGA/IPAD



Figure 27. Rainfall in Turkey contributing to river flows in Syria.

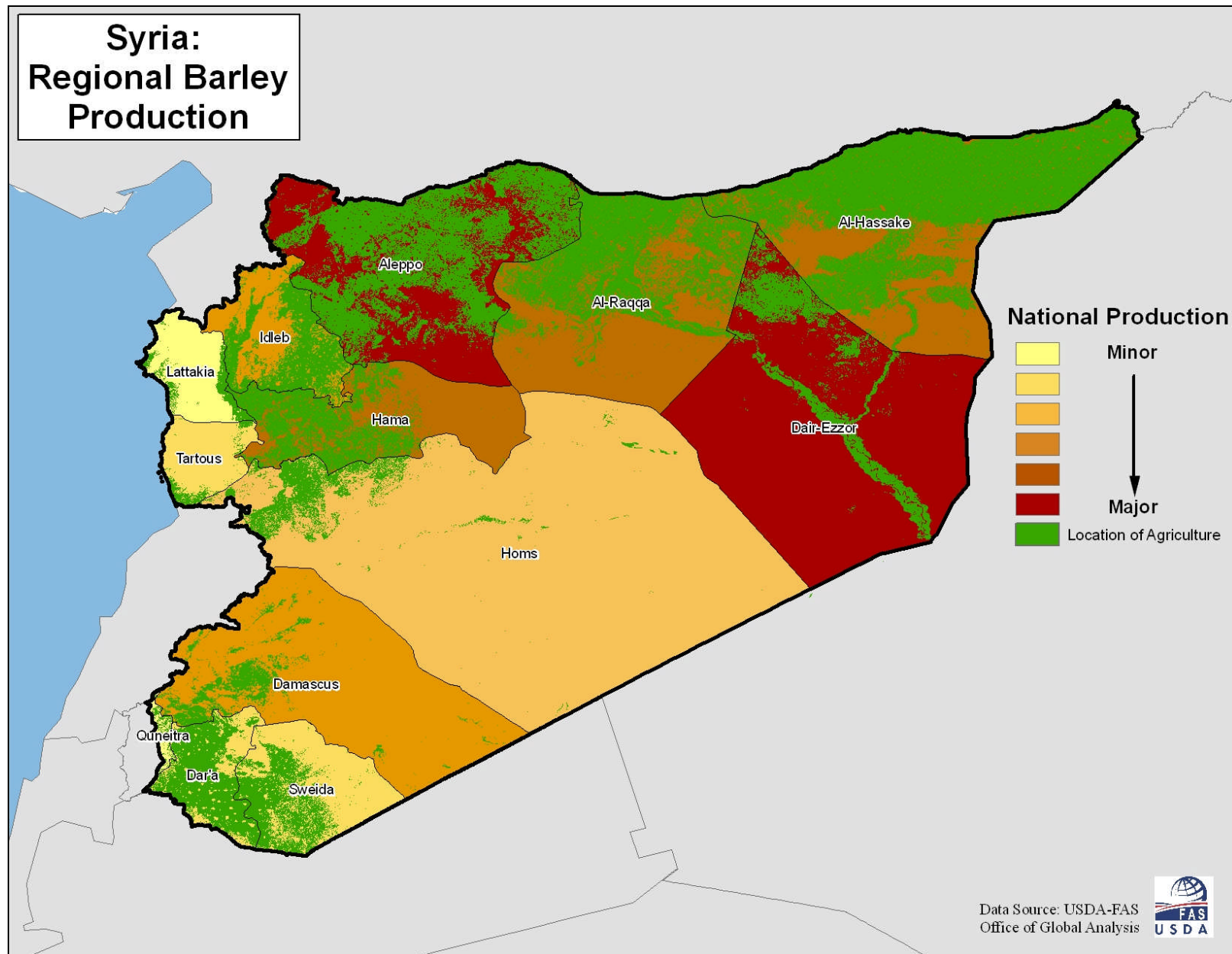


Figure 28. Barley Production in Syria.

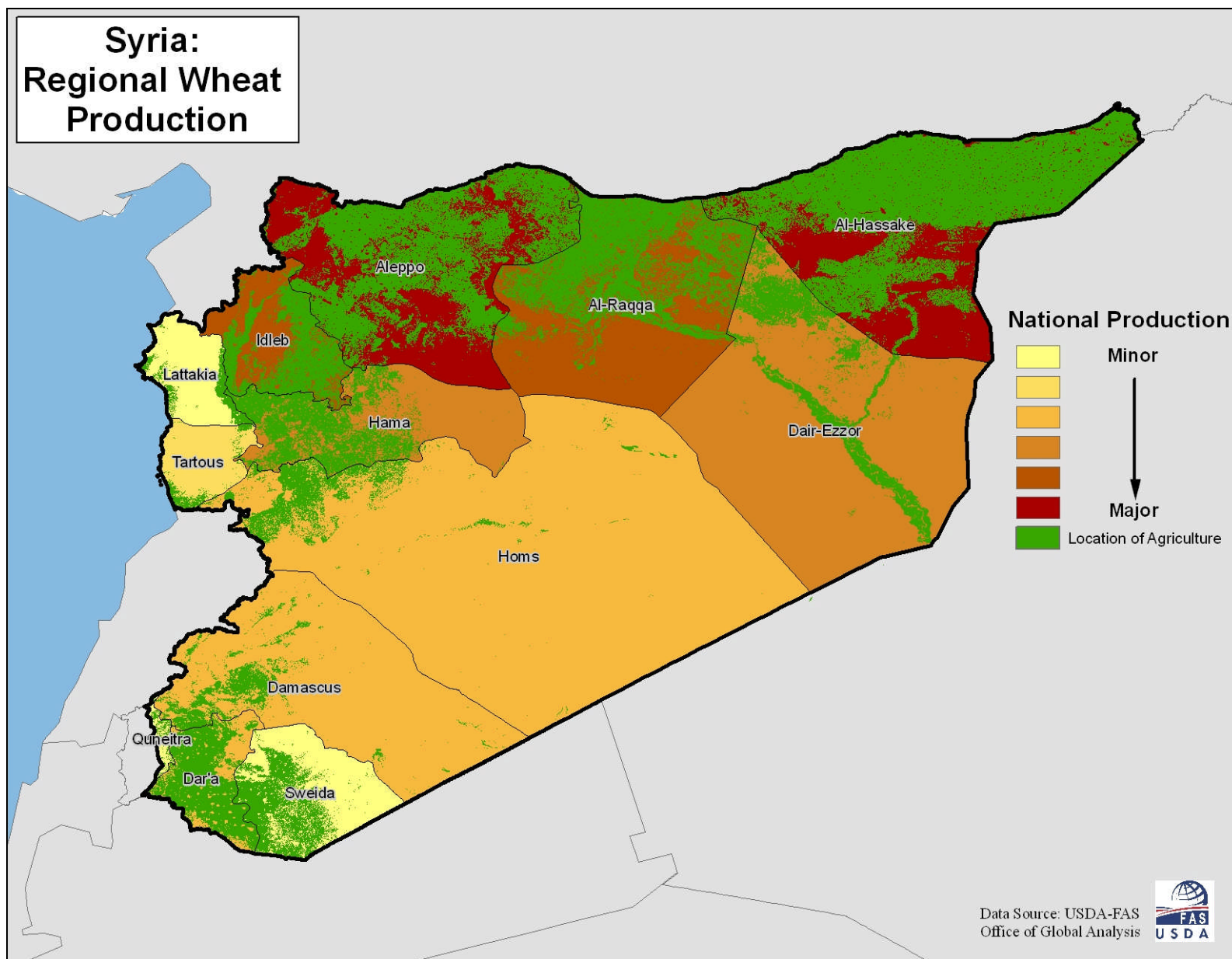


Figure 29. Wheat Production in Syria.